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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO.            |
|---|-------------|----------------------|---------------------------------|-----------------------------|
| 10/563,649  | 01/06/2006  | Kevin R. Boyle       | GB030108                        | 1976                        |
| 65913   | 7590        | 05/29/2008           |                                 |                             |
| NXP, B.V.<br>NXP INTELLECTUAL PROPERTY DEPARTMENT<br>M/S41-SJ<br>1109 MCKAY DRIVE<br>SAN JOSE, CA 95131 |             |                      | EXAMINER<br>DUONG, DIEU HIEN    |                             |
|   |             |                      | ART UNIT<br>2821                | PAPER NUMBER                |
|   |             |                      | NOTIFICATION DATE<br>05/29/2008 | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

|                              |                                       |  |  |
|------------------------------|---------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/563,649  | <b>Applicant(s)</b><br>BOYLE, KEVIN R. |  |
|                              | <b>Examiner</b><br>DIEU HIEN T. DUONG | <b>Art Unit</b><br>2821                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This office action is a response to applicant's amendment filed on 02/19/2008. In virtue of this amendment, claims 13-20 are newly added; thus, claims 1-20 are currently in the instant application.

#### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "an area between the at least one feed pillar and the shorting pillar contains part of a bandwidth broadening resonant circuit, a remaining portion of the bandwidth broadening resonant circuit residing on a circuit board that contains the rf circuit" (in claim 18) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claim 7 is objected to because of the following informalities:

In claim 6, lines 6, “the rf circuit” should be changed to - the rf circuit components- - since lines 1-2 defined rf circuit components;

In claim 7, lines 6, “the rf circuit” should be changed to - the rf circuit components- -;

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 6-7, 9, 12-14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Tracy et al. (US 2004/0252062 A1), hereinafter “Tracy”.

Regarding claim 1, Tracy discloses, in Figures 1 and 7 and par. [0033], lines 31-34, a communications device comprising

a rf circuit (par [0033], lines 31-34) and

an antenna connected by  
a self supporting member (108) having at least one feed pillar (114) and a  
shorting pillar (112) providing support,  
the pillars (114, 112) being substantially permanently connected to respective  
contact points of the rf circuit and extending from the rf circuit to an antenna interface by  
a pressure connection.

Regarding claim 3, as applied to claim 1, Tracy discloses, in Figure 1 and par.  
[0019], wherein the self supporting member (108) is metallic.

Regarding claim 6, as applied to claim 1, Tracy discloses, in Figure 1, wherein  
the antenna is a PIFA.

Regarding claim 7, Tracy discloses, in Figures 1, 7 and par. [0033], lines 31-34, a  
rf module comprising

a supporting member having rf circuit components thereon (see Figure 7) and  
a connector (108) to connect an rf output to an antenna (101), the connector  
(108) comprising an electrically conductive, self supporting member having at least one  
feed pillar (114) and a shorting pillar (112) providing support, the pillars (114, 112) being  
substantially permanently connected to respective contact points of the rf circuit  
components and extending from the rf circuit components to an antenna interface of the  
self supporting member, the antenna interface adapted for coupling to the antenna by a  
pressure connection.

Claim 9 is rejected for similar subject matter to claim 3.

Regarding claim 12, Tracy discloses, in Figure 1, an antenna comprising

a signal propagating and/or receiving element having at least one rf feed termination and a shorting termination and an electrically conductive self supporting member having an antenna interface and at least one feed pillar and a shorting pillar extending from the antenna interface, the pillars adapted to be substantially permanently connected to respective contact points of an rf circuit, and the antenna interface providing a pressure connection with the at least one rf feed termination and the shorting termination.

Regarding claim 13, as applied to claim 1, Tracy discloses, in Figure 1, wherein the antenna is further supported by mounting posts (116, 117) disposed between the antenna and the rf circuit around the antenna periphery.

Regarding claim 14, Tracy discloses, in par. [0033], further comprising a housing (710) and wherein the antenna is supported by the housing.

Regarding claim 16, Tracy discloses, in Figure 1, wherein the antenna interface is located to minimize differential mode currents.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracy et al. (US 2004/0252062 A1), hereinafter "Tracy" in view of Hayes et al. (US 6,662,028 B1), hereinafter "Hayes".

Regarding claims 2 and 8, Tracy discloses every feature of claimed invention as expressly recited in claim 1, except the antenna comprising dual band, dual feed antenna, wherein the self supporting member has two feed pillars disposed on either side of the shorting pillar.

Hayes discloses, in Figure 4a, wherein the antenna comprises a dual band, dual feed antenna, wherein the self supporting member has two feed pillars (46b, 46c, 46d) disposed one on either side of the shorting pillar (46a).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the supporting member of Tracy having two feed pillars disposed one on either side of the shorting pillar as taught by Hayes in order to operate the antenna in multiple frequency bands.

7. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracy et al. (US 2004/0252062 A1), hereinafter "Tracy".

Regarding claim 4 and 10, Tracy discloses every feature of claimed invention as expressly recited in claims 1 and 7, except for the supporting member comprising a metallised insulating material. However, such difference is not of patentable merits since it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the metallised insulating material to form the supporting member and it has been held to be within the general skill in the art of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

8. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracy et al. (US 2004/0252062 A1), hereinafter "Tracy" in view of Boyle (2003/0016179).

Regarding claims 5 and 11, Tracy discloses every feature of claimed invention except for the self supporting member comprising a metallised insulating material.

However, such difference is not of patentable merits since it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the metallised insulating material to form the supporting member and it has been held to be within the general skill in the art of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Tracy does not disclose the self supporting member comprising at least one embedded capacitor.

Boyle discloses, in Figure 5, the self supporting member (510) comprising at least one embedded capacitor.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the capacitor of Boyle in the antenna of Tracy to achieve the claimed invention, doing so would provide impedance matching for the antenna device (col. 1, lines 50-55).

9. Claims 15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracy et al. (US 2004/0252062 A1), hereinafter "Tracy" in view of Poilasne et al. (US 2004/0095281 A1), hereinafter "Poilasne".



Regarding claim 15, Tracy discloses, the antenna including a connector (142) to form the pressure connection with the antenna interface.

Tracy does not disclose the connector comprising a plurality of spring contacts.

Poilasne discloses, in Figure 2A, the connector (13) comprising a plurality of spring contacts (5, 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the connector of Tracy with the spring contacts of Poilasne to achieve the claimed invention, doing so would provide a efficiency, low cost and small antenna (see par. [0006]).

Regarding claim 17, as applied to claim 15, Tracy/Poilasne disclose, (Tracy, Figure 1), the pressure connection is located to minimize differential mode currents.

Regarding claim 18, as applied to Tracy/Poilasne disclose, (Tracy, Figure 7 and par. [0033]), wherein an area between the at least one feed pillar (114) and the shorting pillar (112) contains part of a bandwidth broadening resonant circuit, a remaining portion of the bandwidth broadening resonant circuit residing on a circuit board that contains the rf circuit.

Claim 19 is rejected for similar subject matter to claim 15.

Regarding claim 20, as applied to claim 19, Tracy/Poilasne disclose, (Tracy, Figure 1), the pressure connection is located to minimize differential mode currents.

### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Inquiry***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIEU HIEN T. DUONG whose telephone number is (571)272-8980. The examiner can normally be reached on Monday - Friday, from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

05/22/08

DD

AU2821

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821  
May 24, 2008